

# South Delta Fish Facilities Forum

## DRAFT Meeting Summary and Recommendations

January 6, 2004, 1:00 – 4:30  
California Bay-Delta Authority  
Stanford Room (1<sup>st</sup> Floor)  
Sacramento, California 95814

### Attendees (Sign-ins)

Diana Jacobs .....	DFG (Forum Co-Chair)
Kirk Rodgers .....	USBR (Forum Co-Chair)
Tim Quinn.....	MWDSC (Forum Co-Chair)
Tina Swanson .....	Bay Institute
John Beuttler.....	CSPA
Patrick Wright, Kim Taylor, Jana Machula, Zach Hymanson .....	CBDA
Ron Ott, Darryl Hayes, Randy Brown .....	CBDA
Steve MacCaulay, Steve Cramer .....	CUWA
Dave Forkel.....	Delta Wetlands
Alice Low, Perry Herrgesell, Pat Coulston, Mike Harris, Nina Kogut .....	DFG
Roger Churchwell.....	DWR
Bruce Herbold .....	EPA
Doug Lovell .....	FFF
Bernice Sullivan .....	Friant WUA
Kane Totzke .....	KCWA
Dave Fullerton, Rick Sitts.....	MWDSC
Mike Aceituno, Dan Odenweller, Bruce Oppenheim.....	NOAA Fisheries
B.J. Miller .....	SLDMWA
Laura King Moon, Jim Buell .....	SWC
Joe Cech, M.L. Kavvas .....	UC Davis
Ron Silva, Ken Lentz, Mike Chotkowski.....	USBR
Pete Smith.....	USGS
Dave Harlow, Ryan Olah.....	USFWS

### Revised Agenda

- 1) Introductions..... All
- 2) Agenda Review .....
- 3) Summary of November 3, 2003 Recommendations .....
- 4) Recommendation on Tracy Demonstration Fish Facility  
(i.e. New technology development facility)..... Kirk Rodgers
- 5) Relative Exposure of Fish Species to Direct Losses and  
Evidence of Population Effects..... Pat Coulston
- 6) Estimating Population Level Effects for South Delta Facilities .....
- 7) Meeting Fishery Resource Goals through an Integrated  
Restoration Strategy..... Steve Cramer
- 8) Next meeting

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Note: Handouts, presentation materials, and written comments from participants related to this and previous meetings are located on the CBDA website under the Conveyance Program:

<http://calwater.ca.gov/Programs/Conveyance/SDFF/SouthDeltaFishFacilitiesForum.shtml>

## **2) Agenda Review**

Due to schedule conflicts, the discussion on the Tracy Fish Facility Research was moved ahead of the population talks.

## **3) Summary of November 3, 2003 Recommendations**

Ron Ott presented the recommendations made at the last meeting on the various items and gave a brief status on recent progress on each. These recommendations are as follows:

### ***South Delta Hydrodynamics and Fisheries Investigations***

#### *Recommendation:*

Develop a scientific proposal on South Delta Hydrodynamics and Fish moments for initial implementation this spring. Consider possible opportunities to add additional water quality constituents and study components that may affect fish survival and movements.

#### *Update:*

Proposals have been written and have just started the review process by IEP and Science. The initial field work is tentatively planned to begin in April based on review comments. The first set of data could be available in November 2004. The USBR has found \$320 K of internal funding to help with the State cost share. There was some concern over the State's ability to finalize their funding agreement with the USGS due to contract freezes.

### ***Collection, Handling, Transportation, and Release (CHTR)***

#### *Recommendation:*

Continue with CHTR survival studies incorporating comments from CBDA Science and IEP review.

- Develop scientific proposals on release site investigations, expanding scope to include impacts on all fish species (i.e. not just delta smelt).
- Develop performance measures for CHTR that will guide future stage developments.
- Develop stepwise proposal for implementing new technologies at facilities for all species, considering the most cost effective actions first.

*Update:* The DFG proposals have been outside peer reviewed by CBDA Science and changes are being considered. The IEP coordinators will finalize their decision on the revised proposals for implementation in early February 2004. DWR did not report the status of their proposal development and studies.

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## **South Delta Fish Facility Improvements**

### *Recommendation:*

Fix and maintain facilities to bring fish salvage to original function. Implement cost effective facility improvements when possible (such as an automatic trash rack cleaner, lift bucket improvements, etc.)

### *Update:*

The USBR is continuing their CVPIA funded activities at Tracy.

## **Clifton Court Forebay – Diversion Facility Location Options**

### *Recommendation:*

Conduct pre-feasibility analysis on proposed “module” and “short circuit” options that have the potential to reduce predation in CCF. Develop performance measures on predation and salvage efficiency to guide efforts.

### *Update:*

There has been no decision on how this study should be conducted and integrated into the South Delta implementation plan. These studies and actions will be considered by the Conveyance Program in the near future.

## **Alternative Fish Facility Concepts using Combinations of Non-Salvage Screens and Flow Recirculation**

### *Recommendation:*

Complete South Delta hydrodynamic and fish movement investigations before investigating these concepts further.

## **4) Recommendation on Tracy Demonstration Fish Facility (i.e. New technology development facility)**

Kirk Rogers gave a brief history of where they are on the proposed Tracy fish facility development. The USBR, through CVPIA, was on track to improve their facilities prior to joining forces with the CALFED Bay-Delta Program. The revised Tracy research objective is similar to the original mission but is a little broader in its application – i.e. “to develop fish protection and salvage facilities for the South Delta...looking at feasibility of handling debris, positive barrier screens, fish lift technology, bypass systems, etc.” For a number of reasons, including facility scale, land limitations, expanded study objectives, and operational issues, the Tracy Fish Test Facility cost grew to almost \$180 million. Over the past 18 months, CALFED management and the SDFP Forum has been discussing how to move forward on Tracy given the limited funding.

The USBR management is willing to move forward on or delay the TTF implementation depending on the Forum’s recommendations and agency actions. The USBR is committed any of the following courses of actions:

- 1) Proceed with implementation of a research facility (funding being able to be worked out). Note: the USBR has developed various alternatives to deal with

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- funding limitations and facility scale issues. The latest proposal is probably between \$10-20 million;
- 2) Stand by and wait until the goals for the research or a direction on facility action is clarified;
  - 3) Collaborate with UC Davis or other or other entities on research as appropriate.

Discussion Items:

- \$10-20 million may have not been much in the past, but is a lot of money today and it may be wiser to place these funds elsewhere;
- We may be a couple of months away from knowing how this fits into CALFED's current direction;
- The project has a continued obligation to fish facility operations, however, it was pointed out that the USBR has been unable to implement some needed facility changes recently;
- The USBR said that they will be implementing facility improvements changes at existing facilities as they determine their benefits;
- There was concern that we are delaying implementation of better fish protection facilities if we do not continue research;
- There was concern that improved fish screening may not be the best dollar investment;
- NOAA Fisheries is concerned with a postponement of activities. They want to know what is going to happen at Tracy;
- There was concern that spending funds on other items will be equally questionable;
- A funding shift away from Tracy was questioned since the source was from Prop. 13 South Delta Facilities construction allocations;
- NOAA Fisheries said that they need somewhere to test research and they prefer on-site research;
- A roadmap is needed on how we are going to decide, comparing EWA and other actions;
- We need to know the tools we have to work with and the Tracy Test Facility is part of that;
- If testing will take 3-4 years to develop facility recommendations, any further TFTF delay will delay possible implementation;
- A critical dry year is when time will be the enemy and could be an unwelcome wake up call;
- UC Davis said that they need to be considered in the research process. He said that a \$2 million flume could be built in 13 months;
- There were some that thought the UC Davis proposal was just a facility and not a study plan. A study plan would have to be developed and daylighted for evaluation of the alternative;
- Delaying Tracy research is not the issue, it is about directing funding into the best strategy. An integrated approach is needed and no decision can be made without that;
- There was concern that we have not determined what we need to know and when we need to know it;
- There was concern that without continuing some level of research on improved facilities, we are not comparing options. This may not be fair in comparing options will be closing off our chances of research is supposed to help decisions. Without it, we may be decreasing our chances of determining the best solution;

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**Action Items:**

***UC Davis will prepare a study proposal that is equivalent in meeting the objectives of the USBR Tracy Demonstration Fish Facility and research program. This proposal should be presented to Ron Ott by the end of January 2004, and be transmitted to an independent subgroup that can prepare a recommendation for the SFFF Forum chairs by the next Forum meeting.***

***Mike Aceituno, NOAA Fisheries, was charged by the Forum chairs to organize this independent subgroup to review BOTH the UC Davis and USBR proposals and prepare a recommendation for the SFFF Forum chairs at the next meeting.***

***Mike Aceituno will determine the make-up of this subgroup. To be fair, NOAA Fisheries said that it will not include parties from the USBR or UC Davis.***

***At the next meeting, the USBR and DWR will discuss upgrade improvements that they would like to implement based on their work and lessons to date.***

### **5) Relative Exposure of Fish Species to Direct Losses and Evidence of Population Effects**

Pat Coulston gave a PowerPoint presentation on direct losses. The presentation is available for viewing on the CBDA website. Pat Coulston said he will prepare some slide notes which will be posted at a later date along with the presentation.

Discussion items, clarifications, and some key points from the presentation:

- The slides present data in densities of fish per acre-foot diverted;
- The fish data is "Salvage", i.e. the numbers of fish that show up in the final fish collection buckets (expanded from subsamples). This number is not loss! Screen efficiency is highly variable for some species, as is predation associated with the forebay and facility;
- Export losses are not direct losses. This presentation is only looking at direct loss.
- Decreasing direct loss may not reduce export losses – it could be only a shift in loss to indirects;
- Fish with a high exposure potential and are also of high importance at San Joaquin salmon, delta smelt, and striped bass;
- Not all fish salvage trends follow fish abundance trends;
- Longfin smelt are hit hard in dry and low abundance years since they are further up the estuary then;
- There are many factors between the last 10 years and before...some likely management and operational shift related, and some estuary changes, like the clams;
- While we have data, we have not teased out direct loss from export or actual loss relationships. There may be some value in an effort to do this;
- In some years, larger sized fish can be entrained and lost which can have a larger impact on populations (i.e. Striped bass as one example);

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- Delta smelt habitat used to be best in upstream areas, now we are managing for their downstream habitat since the export facilities are located in their upstream south delta habitat;
  - Direct losses of delta smelt may be significant, especially in a critical dry year when water temperature is cool, exports are high, and the much of the population is in the South Delta;

**Action Item:**

***Pat Coulston will prepare some notes based on the slides which will be posted on the SDF Forum website.***

***Pat C. will also highlight some recommendations on how existing data can be reevaluated to look at the various fish losses and relative magnitudes.***

**6) Estimating Population Level Effects for South Delta Facilities**

B.J. Miller gave a PowerPoint presentation on an alternative method of estimating fish population impacts due to export pumping. This “fractional” method is based on Wim Kimmerer’s method of looking at populations and could potentially be used to determine the relative impact of exports even if you don’t know the full population. The presentation, including his key points, is posted on the SDF Forum website.

Discussion items:

- The “concluding slide” should have one of the bullets changed to read: Estimates of such effects for delta smelt would require additional **monitoring**, costing in the range of \$350-400K/yr;
- There was some concern with “fixed” station monitoring stations. Random stations may be better and take out some bias;
- This method seems to rely on “real time” monitoring, which did not work as well in the past;
- Accounting for Delta Cross Channel closures will make this difficult to evaluate;
- The accounting methods seem reasonable, but the devil is in the sampling efficiency and may be a fatal flaw if not set up correctly;
- This method does nothing to address the cumulative entrainment impact on fish populations from CVP/SWP project exports that could be more significant than simple entrainment loss estimates. Cumulative impacts can result from individually minor but collectively significant impacts over a period of time. To estimate the cumulative impact we would need to know, among other things, how many of those fish lost would have survived to maturity; how many offspring they would have produced over their lifetime, and the lifetime of each generation in order to understand the full impact of these losses on the size and composition of future fish population levels.

**Action Items**

***None***

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## **7) Meeting Fishery Resource Goals through an Integrated Restoration Strategy**

Steve Cramer remotely gave a presentation on the status of the salmon modeling efforts being spear headed by CUWA. This effort is overseen by an interagency group. Essentially, the modeling effort is a large spreadsheet model that integrates existing models into one package. The model will eventually be used to determine the relative benefits and costs of various operational and facility improvements. The model has three parts: 1) a lifecycle/biological model; 2) a SWP/CVP South Delta facility improvements section; and 3) a cost/benefit model. The model is still under development, but has successfully tracked some historic population trends and is being calibrated to forecast trends.

Discussion Items and key points:

- The model is going to look at packages of alternatives. Impacts of individual elements can be done, but the intent is to look at packages of actions since many actions are most beneficial or dependant on related actions;
- The timeframe to begin using the model to compare actions is at least several months out;
- The model does not look at ocean conditions presently. However, this did not seem to drive the model based on the “hind cast” model verification;
- NOAA Fisheries said that ideally, it would be most useful if some runs were made in time for evaluating the OCAP, but recognized that this is unlikely to be acceptable by then;
- There was some concern that the model will not give enough confidence to map a justifiable course of action;
- When asked what factors drove the past salmon population trends in the model, it was a combination of Red Bluff Passage, Shasta Temperature Control, and Ocean Harvest reductions.
- It was suggested that a white paper be prepared on a plan of action that brings fish facility actions into perspective with all the other items. No one was identified to complete this and it was unclear how expansive this effort should go.

**Action Item:**

***A “roadmap” is needed on where we are headed and what we are trying to accomplish. A decision process should be part of this effort. A timeframe and responsibility for this is deferred until the population discussion is completed at the next meeting.***

### **Next Meeting**

**Date:** To Be Determined, but likely in March 2004 (All Chairs were not present at the end of the meeting)

**Location:** TBD – Most likely at the CBDA office on 650 Capitol Mall

**Topics:**

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- ***Summary talk on delta smelt population understanding and exports***
  - ***Discussion on population impacts and how they may influence facility decisions***
  - ***Presentation on fish facility improvements being considered now and why***
  - ***Small group summary and recommendation on UC Davis research facility study and comparison to Tracy Demonstration Fish Facility already on the table.***